

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

TYPE CERTIFICATE DATA SHEET NO. P15EA

P15EA Revision 23 Hartzell HC-B3T January 4, 2008

Propellers of models described herein conforming with this data sheet (which is part of Type Certificate No. P15EA) and other approved data on file with the Federal Aviation Administration meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations provided they are installed, operated and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder	Hartzell Propeller Inc. Piqua, OH 45356
Type	Constant speed; hydraulic (see Notes 3 and 4)
Engine shaft	Special flange: (see Note 1)
Hub material	Alloy Steel
Blade material	See below
Number of blades	Three
Hub models	HC-B3TN-2, HC-B3TN-3, HC-B3TN-5, HC-B3TN-7, HC-B3TF-7, HC-B3TW-3 (see Notes 1 and 4)

Blades (see Note 2)	Maximum Continuous		Takeoff		Diameter Limits	Approx. Max. Wt. Complete (For Reference Only)	Blade Construction
	HP	RPM	HP	RPM	(see Note 2)	(see Notes 3 and 7)	
<u>HC-B3TN-2, HC-B3TN-3, HC-B3TN-5, HC-B3TN-7</u>							
T10172()-0 to T10172()-21	500	2200	550	2200	101 3/8” to 80 3/8” (-0 to -21)	105 lb. *	Aluminum Alloy
T10173()+1 to T10173()-25	680	2200	680	2200	102 3/8” to 76 3/8” (+1 to -25)	105 lb. *	Aluminum Alloy
T10173()-8 to T10173()-12	750	2200	750	2200	93 3/8” to 89 3/8” (-8 to -12)	105 lb. *	Aluminum Alloy
T10173A-0 to T10173A-21	750	2000	750	2000	101 3/8” to 80 3/8” (-0 to -21)	108 lb. *	Aluminum Alloy
T10173D-0 to T10173D-21	850	2000	850	2000	101 3/8” to 80 3/8” (-0 to -21)	110 lb. *	Aluminum Alloy
T10176()+1 to T10176()-21	680	2200	680	2200	102 3/8” to 80 3/8” (+1 to -21)	105 lb. *	Aluminum Alloy
T10178()-0 to T10178()-21	750	2200	800	2200	101 3/8” to 80 3/8” (-0 to -21)	112.5 lb. **	Aluminum Alloy
	or 850	or 2000	or 1000	or 2000			
T10282()+6 to T10282()-16	725	1591	776	1591	108” to 86” (+6 to -16)	113 lb. **	Aluminum Alloy
T10282()+6 to T10282()+4	725	1591	776	1591	108” to 106” (+6 to +4)	113 lb. **	Aluminum Alloy
	or 600	or 2000	or 600	or 2000			
T10282()+4 to T10282()-0	750	2200	750	2200	106” to 102” (+4 to -0)	113 lb. **	Aluminum Alloy
	or 600	or 2000	or 600	or 2000			

Blades (see Note 2)	Maximum Continuous		Takeoff		Diameter Limits	Approx. Max. Wt. Complete (For Reference Only)	Blade Construction
	HP	RPM	HP	RPM	(see Note 2)	(see Notes 3 and 7)	
<u>HC-B3TN-2, HC-B3TN-3, HC-B3TN-5, HC-B3TN-7 (cont.)</u>							
T10282()-0 to T10282()-21	750 or 850	2200	800 or 1000	2200	102” to 81” (-0 to -21)	112.5 lb. **	Aluminum Alloy
T10282()-21 to T10282()-30	750	2200	750	2200	81” to 72” (-21 to -30)	112.5 lb. **	Aluminum Alloy
T10282N()-0 to T10282N()-21	750 or 850	2200	800 or 1000	2200	102” to 81” (-0 to -21)	112.5 lb. **	Aluminum Alloy
T10573()-3 to T10573()-24	750 or 840	2200	800 or 1000	2200	102” to 81” (-3 to -24)	112.5 lb. **	Aluminum Alloy
T10673()-0 to T10673()-20	725	1591	776	1591	106” to 86” (-0 to -20)	116 lb. **	Aluminum Alloy
T10876()-0 to T10876()-20	820	1591	820	1591	108 3/8” to 88 3/8” (-0 to -20)	116 lb. **	Aluminum Alloy
<u>HC-B3TN-3, HC-B3TN-5</u>							
T10290N-0 to T10290N-10	850	2000	1000	2000	102” to 92” (-0 to -10)	135 lb.	Aluminum Alloy
T10290N+2 to T10290N-0	750	2000	750	2000	104” to 102” (+2 to -0)	135 lb.	Aluminum Alloy
<u>HC-B3TN-3</u>							
T10890C-2 to T10890C-10	675	1900	675	1900	106” to 98” (-2 to -10)	139 lb.	Aluminum Alloy
<u>HC-B3TF -7</u>							
T9212()-0 to T9212()-10	450	2180	450	2180	92” to 82” (-0 to -10)	118 lb.	Aluminum Alloy
T10172()-0 to T10172()-21	450	2180	450	2180	101 3/8” to 80 3/8” (-0 to -21)	115 lb.	Aluminum Alloy
T10173()+1 to T10173()-31	450	2180	450	2180	102 3/8” to 70 3/8” (+1 to -31)	115 lb.	Aluminum Alloy
T10173F()+1 to T10173F()-31	450	2180	450	2180	102 3/8” to 70 3/8” (+1 to -31)	115 lb.	Aluminum Alloy
T10176()+1 to T10176()-21	450	2180	450	2180	102 3/8” to 80 3/8” (+1 to -21)	115 lb.	Aluminum Alloy
T10178()-0 to T10178()-21	450	2180	450	2180	101 3/8” to 80 3/8” (-0 to -21)	127 lb.	Aluminum Alloy
T10282()+6 to T10282()-21	450	2180	450	2180	108” to 81” (+6 to -21)	127.5 lb.	Aluminum Alloy

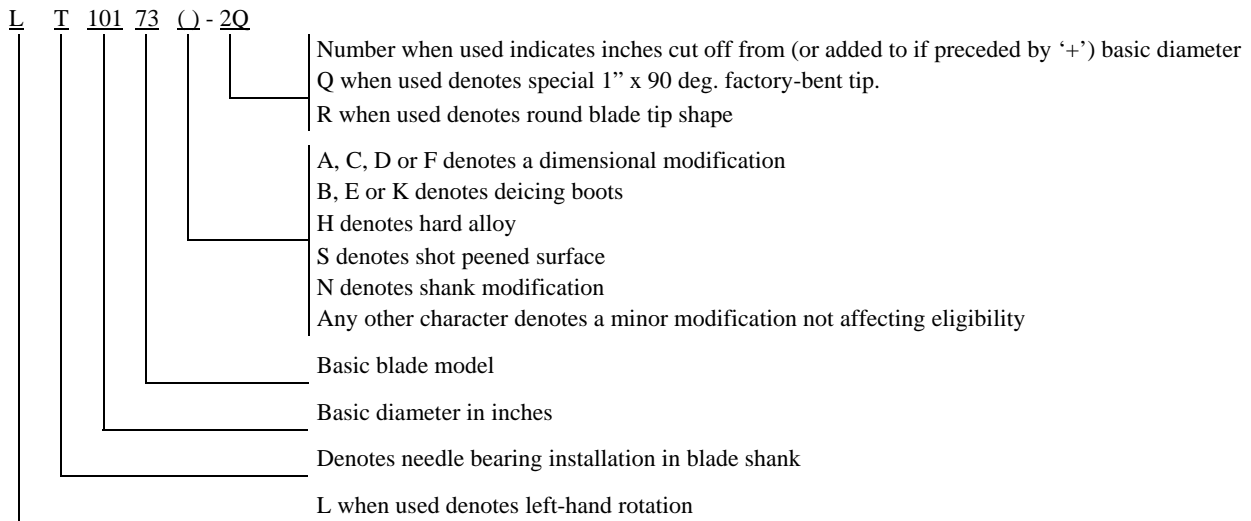
Blades (see Note 2)	Maximum Continuous		Takeoff		Diameter Limits (see Note 2)	Approx. Max. Wt. Complete (For Reference Only) (see Notes 3 and 7)	Blade Construction
	HP	RPM	HP	RPM			
<u>HC-B3TF-7 (cont.)</u>							
T10282()-21 to T10282()-30	450	2180	450	2180	81” to 72” (-21 to -30)	127.5 lb.	Aluminum Alloy
<u>HC-B3TW-3</u>							
T10282N+4 to T10282N-0	670	1900	777	2080	106” to 102” (+4 to -0)	136 lb.	Aluminum Alloy
* for HC-B3TN-3, -5, -7 models add 10.0 lb.							
** for HC-B3TN-3, -5, -7 models add 14.5 lb.							

Certification Basis:	<p>Civil Air Regulations Part 14 effective December 15, 1956 with amendment 14-1 thereto. Type Certificate no. P15EA issued Feb. 7, 1964. Date of application for T.C.: January 29, 1964</p> <p>The following models were included under the original certification basis: HC-B3TN-2, HC-B3TN-3, HC-B3TN-5</p> <p>The following models were added, updated or revised in accordance with 14 CFR Part 35 with amendments 35-1 through 35-2 effective April 3, 1967: HC-B3TN-2, HC-B3TN-3, HC-B3TN-5, HC-B3TN-7, HC-B3TF-7</p> <p>The following models were added, updated or revised in accordance with 14 CFR Part 35 with amendments 35-1 through 35-5 effective October 14, 1980: HC-B3TF-7</p> <p>The following models were added, updated or revised in accordance with 14 CFR Part 35 with amendments 35-1 through 35-6 effective August 1, 1990: HC-B3TN-2, HC-B3TN-3, HC-B3TN-5, HC-B3TN-7, HC-B3TW-3</p>
Production Basis:	Production Certificate no. 10

Note 1: Hub Model Designation (See Notes 4, 5 and 6)

<u>HC</u>	<u>-</u>	<u>B</u>	<u>3</u>	<u>T</u>	<u>N</u>	<u>-</u>	<u>3</u>	<u>AL</u>	
									L when used denotes left hand rotation
									Y when used with -3 models denotes start locks
									Any other character denotes minor change not affecting eligibility
									Denotes specific design features
									-2: no beta feedback mechanism
									-3: external beta feedback mechanism
									-5: start locks, internal beta feedback mechanism
									-7: internal beta feedback mechanism, no start locks
									N denotes special flange with 8 - 9/16" bolts and 2 dowels on a 4 1/4" B.C.
									F denotes special flange with 6-1/2" bolts and 2 dowels on a 4" B.C.
									W denotes special flange with a 3/8" spacer, 8 - 9/16" studs and 2 dowels on a 4 1/4" B.C.
									Hartzell blade shank size
									Number of blades
									Identifies basic design
									<u>H</u> artzell <u>C</u> ontrollable

Note 2: Blade Model Designation (See Notes 5 and 6)



Note 3: Pitch Control (weight of pitch control extra) (See Notes 4 and 10)

- (a) All models have counterweighted blades and use governor oil to decrease pitch.
- (b) All governors and propeller control systems must be approved as part of the aircraft installation regardless of manufacturer.
- (c) HC-B3TF-7 models used on Rolls-Royce (Allison) 250-B17 series engines require the Hartzell C-3630() beta valve. (See Note 6)
- (d) Maximum control pressure for all models: 500 psig

Note 4: Feathering

- (a) The -2, -3, -5 and -7 models incorporate feathering and unfeathering features.

Reversing

- (a) The -3, -5 and -7 models are approved for installation as reversing propellers with reversing controls.
- (b) The -2 models do not reverse.

Note 5: Left-Hand Models (See Notes 1 and 2)

The left-hand version of an approved propeller model is approved at the same rating and diameter as listed for the right-hand model.

Note 6: Interchangeability (See Notes 1 and 2)

- (a) Blades with the suffix “N” in the basic model number may replace those without an “N” either individually or as a set. Likewise, blades with the suffix “S” in the basic model number may replace those without an “S” either individually or as a set. When the aircraft Type Certificate or Supplemental Type Certificate specifies blades with the letters “N” or “S” in the basic model number, those characters must be retained in all replacement blade models.

For example: Blades with neither “N” nor “S” may be replaced by “N”, “S” or “NS” blades,
 “N” blades may be replaced by “NS” blades,
 “S” blades may be replaced by “NS” blades.

- (b) Hard and soft alloy blades of the same model designation are interchangeable.
- (c) Propeller model HC-B3TN-5M(L) may replace models HC-B3TN-5C(L), -5E or -5G.
 Propeller model HC-B3TN-5E may replace model HC-B3TN-5C.
 Propeller model HC-B3TN-5NL may replace HC-B3TN-5DL or -5FL.
 Propeller model HC-B3TN-5P may replace HC-B3TN-5K.
- (d) Refer to Hartzell Service Letter HC-SL-30-260 for ice protection system component interchangeability.
- (e) Hartzell beta valves C-3630, C-3630-1 and C-3630-2 are interchangeable.

Note 7: Accessories

- (a) Propeller ice protection system (weight of ice protection equipment extra)
 - (1) Propeller models listed in this data sheet are approved for use with propeller ice protection equipment listed in Hartzell Manual 159 or in other Hartzell type design data.
 - (2) All propeller ice protection equipment must be approved as part of the aircraft installation regardless of manufacturer. (See Note 10)
- (b) Propeller spinner (weight of spinner extra)
 - (1) Approved with Hartzell and other manufacturers’ spinners when listed on Hartzell type design data.
 - (2) All propeller spinners must be approved as part of the aircraft installation regardless of manufacturer. (See Note 10)

Note 8: Shank Fairings Not applicable.

Note 9: Special Limits Not applicable.

Note 10: The propeller installation must be approved as part of the aircraft type certificate to demonstrate compliance with the applicable aircraft airworthiness standards.

Propeller models listed herein consist of basic hub and blade models. Most propeller models include additional characters to denote minor changes and specific features as explained in Notes 1 and 2. Refer to the aircraft Type Certificate Data Sheet for the specific propeller model applicable to the installation.

Note 11: Retirement Time

- (a) Life limits and mandatory inspections. Airworthiness limitations, if any, are specified in Hartzell Maintenance Manual 118() or Service Letter 61().

Note 12: Special Notes

- (a) Refer to Hartzell Manual no. 202() for overspeed and overtorque limits.
- (b) Refer to Hartzell Service Letter HC-SL-61-61() for overhaul periods.

END